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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/673,258
Filing Date: September 30, 2003
Appellant(s): TANI, KOICHIRO

Benjamin J. Hauptman
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed March 5, 2008 appealing from the Office action mailed August 22, 2007.

(1) Real Party in Interest

The real party in interest is UNI-CHARM Corporation.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,004,306	ROBLES et al	12-1999

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1, 3-5, 7-10,12, 13, 15, 17 and 19, 20 and 22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robles et al (U.S. Patent No. 6,004,306).

With respect to **Claims 1,15:** Robles teaches diaper 20 comprising containment assembly 22 further comprising a liquid-pervious topsheet 24, a liquid-impervious backsheet 26 absorbent core 28 disposed between said topsheet and said backsheet, extensible side panels 30 with proximal edges 80 and distal edges 82 (Fig. 1) (Col. 4, lines 25-36). Robles teaches that side panels 30 are bonded to containment assembly 22 at edge 80 in a bonding area of varying size and pattern (Fig. 1) (Col. 12, lines 24-31, 60-62). As can best be seen from Figs. 1-3, tape fasteners 40 are disposed on a distal outer edge of side panels 30 that is laterally outward from an inner edge of side panels 30. Robles teaches a pair of fasteners 40, wherein each of the fasteners is disposed at a region of a said side flap 30 extending outwardly in the width direction away from the bonding-free region in which the side flap 30 is free of direct attachment to the diaper body. Robles teaches that extensible side panels are comprised of waist panel 36 and thigh panel 38 of identical size that are bonded to edge 56 of containment assembly 22, therefore there exists first and second joint parts located in an upper and lower region, respectively, of distal edge 80. (Fig. 1) (Col. 10, lines 24-27, 48-50, Col. 12, lines 59-62) As

taught by Robles in the Abstract, the side panel comprising said waist and thigh panels forms a multi-directional extensible pattern wherein the waist panel provides tension (i.e. a first tensile force) toward the wearer's waist and the first joining part, and the thigh panel expands and contracts (a second tensile force) to maintain a dynamic fit around the wearer's legs. Thus the second tensile force is directed toward the user's legs and thus the second joining part. This dispersion of a pulling force into first and second tensile forces is taught by Robels as occurring during wear. Therefore a pulling force which occurs when the fastener fixed to each of the side flaps is pulled transversely outwardly in use will necessarily also result in the same dispersion of the pulling force into first and second tensile forces along the waist and thigh panels, respectively. Robles teaches that this provides an enhanced fit of the diaper on a wearer in use.

Robles does not explicitly teach separate side flap fixing parts and joint parts. The teaching by Robles of bonds of varying size and patterns makes possible separate side flap fixing parts and joint parts with a bond–free region disposed therebetween with a reasonable expectation of success, and either of fixing parts or joint parts can be positioned inward with respect to one another along a transverse direction of said diaper. Robles teaches varying the positions and dimensions of the bonding areas so as to effect a different fit for the user, therefore placing the joining parts and fixing parts (or two other discrete bonding sites) at a transverse distance from each other wherein one is placed inwardly of the other affects the tensile modulus and thus can be used to alter the tensile modulus to provide a customized fit, therefore it would be obvious to one of ordinary skill in the art to place one of the fixing part and the joint part inwardly of the other. With respect to claim 18, in the bond-free region, the respective side flap would be free of direct attachment to the diaper body. Therefore it would have been obvious to one of ordinary skill in the art to identify a pattern comprising at least two

separate bond points or lines of either equal or varying length as defining fixing parts and joint parts, respectively, said joint parts or fixing parts thus having either equal or differing lengths.

With respect to **Claim 3:** Robles teaches that extensible side panels are comprised of waist panel 36 and thigh panel 38 of identical size that are bonded to edge 56 of containment assembly 22, therefore there exists first and second joint parts located in an upper and lower region, respectively, of distal edge 80. (Fig. 1) (Col. 10, lines 24-27, 48-50, Col. 12, lines 59-62) The joint parts will have substantially identical size as well given the identical size of the panels 36 and 38. (Col. 12, lines 21,22)

With respect to **Claims 4,12,13:** Robles teaches that extensible side panels are comprised of laminates of elastomeric nonwoven materials with a nonwoven coverstock material sandwiched therebetween. (Col. 13, lines 62-66)

With respect to **Claim 5:** As can best be seen from any of Figures 1-3, Robles teaches that fasteners 40 are disposed at a substantial center vertically along the outer edge of each of side panels 30.

With respect to **Claim 7:** Robles teaches that the side panel 30 is joined to the containment assembly 22 at the first and second joint parts and a fixing part (as part of the bonding pattern taught by Robles) by heat bonding (Col. 13, lines 4-8), which also therefore teaches thermal bonding for the constitution of any fixing or joint part bonds.

With respect to **Claim 8:** Robles teaches by reference to U.S. Patent No. 3,848,594 to Buell that tape fasteners 40 are comprised of a fastening layer or surface bonded to a back surface. (Col. 20, lines 64-66)

With respect to **Claims 9 and 10:** Robles teaches that waist panel member 37 and thigh panel member 39 are initially joined separately to the diaper 20 (Fig. 5) (Col. 13, lines 31-36). Since Robles also teaches that attachment of side panels 30 to distal edges 80 is intermittent (Col. 13, lines 8-10), Robles teaches attachment areas of differing size for the waist and thigh panels 36 and 38.

With respect to **Claims 15,17:** Please see the rejections of claims 1 and 3 as these rejections collectively address all of the limitations of claims 15 and 17. Since Robles teaches that the bonding areas can vary in size the lengths and widths of each of either fixing part bonds or joint part bonds can be varied to result in a change in elastic modulus to the waist and thigh panels 36,38 and thus result in adjusted fitness around the waist of a user. Since Robles also teaches that waist panel 36 may differ in size from thigh panel 38, the joint parts would have to be adjusted in length and width to accommodate the differing lengths and thus their respective positions would necessarily have to be adjusted. Robles teaches fixing a fastener 40 to an outer end of a side flap 30 in a region which extends outward in the width direction from a bonding free region of the side flap 30, wherein the side flap 30 is free of direct attachment to the diaper body in the bonding free-region. As can be seen in Fig. 12, Robles teaches first and second joint parts that are spaced from each other in a longitudinal direction by the bonding free region.

With respect to **Claim 19:** Since Robles also teaches that waist panel 36 may differ in size from thigh panel 38 but does not explicitly teach that one of the first or second joint parts is closer to the respective side edge of the diaper body than the other, it would be obvious to one of ordinary skill in the art to move either of the first or second joining parts to compensate for the difference in size to ensure an accurate fit about the wearer with the tensile forces being appropriately distributed.

With respect to **Claim 20:** As can be seen in Fig. 1, the fixing parts of each flap extend continuously along substantially the entire length of the respective side flap. As can also be seen in Fig. 1, and owing to the shape of each panel 36,38, a length of a joining part of each flap is necessarily shorter than the length of the respective fixing part, but Robles does not explicitly teach that a length of the each of said first and second joint parts is shorter than half of that of the fixing part. It would be obvious to one of ordinary skill in the art to modify the length of a joining part so as to be equal to half of the length of the fixing part, as this limitation represents an optimization of the relative length of the joining parts with respect to the fixing part of the respective flap, and since Robles teaches that the bonding areas can vary in size the lengths and widths of each of either fixing part bonds or joint part bonds can be varied to result in a change in elastic modulus to the waist and thigh panels 36,38 and thus adjustable fitness around the waist of a user.

With respect to **Claims 22,23:** With respect to claim 22, Robles does not teach explicitly that the second joint part of each side flap overlaps the leg elastic elements, however since Robles teaches that the width of the joint parts as part of a bonding pattern can be modified to provide a different fit for a user, it would be obvious to one of ordinary skill in the art to either modify the

width of the joint part such that said joint part overlaps at least one of the leg elastic elements 32 or, with respect to claim 23, modify the width so that the first joint part is located on an imaginary extension of at least one of the leg elastic elements, as the modification would still result in a different fit even if the joint parts do not physically overlap the elastic elements.

With respect to **claim 24:** Robles teaches a disposable diaper, comprising a diaper body 20 having a top sheet 24, a back sheet 26, and an absorbent body 28 enclosed between the top sheet 24 and the back sheet 26; a pair of side flaps 30 fixed to the diaper body 20; and a pair of fasteners 40; wherein the diaper body further has a pair of side edges 82 extending in a longitudinal direction of the diaper body. Each of the side flaps 30 extends in a width direction of the diaper body and has an inner end 80 being disposed inboard of a respective one of the side edges of the diaper body and an outer end being disposed outboard of the respective side edge of the diaper body, and each of the fasteners 40 is fixed to the outer end of one of the side flaps 30; wherein each of the side flaps 30 is fixed to the diaper body at a fixing part being arranged adjacent and along an inner edge of the inner end of the respective side flap 30. A first joint that is part of a bonding pattern taught by Robles for bonding the side flaps 30 to the diaper body is located at an upper part of the inner end of the respective side flap, and a second joint part is located at a lower part of the inner end of the respective side flap. The fixing part as part of a said bonding pattern taught or suggested by Robles is spaced, in the width direction of the diaper body, inwardly from the joint parts by a bonding-free region in which the side flap is free of direct attachment to the diaper body. The second joint part as part of the bonding pattern suggested by Robles is spaced in the longitudinal direction from the first joint part by a section of the bonding-free region shown in Fig. 1 as the area of the respective side edge that is between the bottom edge of waist panels 37 and the top edge of thigh panels 38. Each of the

fasteners 40 is disposed such that the fastener is not co-elevational in the longitudinal direction with any portion of the first joint part or any portion of the second joint part. (Fig. 12) As taught by Robles in the Abstract, the side panel comprising said waist and thigh panels forms a multi-directional extensible pattern wherein the waist panel provides tension (i.e. a first tensile force) toward the wearer's waist and the first joining part, and the thigh panel expands and contracts (a second tensile force) to maintain a dynamic fit around the wearer's legs. Thus the second tensile force is directed toward the user's legs and thus the second joining part. This dispersion of a pulling force into first and second tensile forces is taught by Robels as occurring during wear. Therefore a pulling force which occurs when the fastener fixed to each of the side flaps is pulled transversely outwardly in use will necessarily also result in the same dispersion of the pulling force into first and second tensile forces along the waist and thigh panels, respectively. Robles teaches that this provides an enhanced fit of the diaper on a wearer in use.

With respect to **claim 25:** Each of the fasteners 40 is disposed such that an entirety of the fastener 40 is co-elevational in the longitudinal direction with the bonding-free region's section that separates the first and second joint parts in the longitudinal direction. (Fig. 12)

With respect to **claim 26:** Each of the side flaps 30 extends continuously in the longitudinal direction from the first joint part, across the bonding-free region's section that separates the first and second joint parts, and to the second joint part, without being interrupted by any bonding line or edge of the side flap. (Fig. 11, Col. 2, lines 47-49)

(10) Response to Argument

Applicant's arguments filed March 5, 2008 have been fully considered but they are not persuasive.

With respect to arguments regarding claim 1: Applicant argues with respect to remarks (a) and (b) presented on page 14 of the Remarks that Robles does not teach or suggest that each of the instant side flaps is fixed to the diaper body at a fixing part, a first joint part and a second joint part, the fixed part being spaced in the width direction (of the diaper body) from the joint parts by a bonding-free region in which the side flap is free of direct attachment to the diaper body. As stated throughout prosecution, Robles teach that side panels 30 is joined to the containment assembly 22 (i.e. the diaper body) by intermittent bonding. ('306, Col. 13, lines 4-13) Intermittent bonding comprises a series of bonding points, regions or zones separated in all directions of the substrate in question by bonding-free regions. So, in the case of the side flap bonded to the containment assembly taught by Robles, there are bonds starting at the inner edge of the flap and continuing in a pattern, separated from other bonds in the width direction of the diaper body. Thus, the bonding point or zone nearest the inner edge is the fixing part. Since Robles teaches intermittent bonding as it is known in the art, there are several bonding points or regions present. Thus a second and third bond point or region positioned at respective upper and lower parts of the inner end of the side flap function as first and second joining parts. Applicant is reminded that the fixing parts and joining parts recited in claim 1 perform identical functions, i.e. they attach the side flap to the claimed diaper body. The general locations of the fixing and joining parts recited in claim 1 are insufficient to distinguish over the intermittent bonding known in the art that is taught by Robles as the means for attachment of the instant side panels 30 to the containment assembly. As to applicant's argument that Col. 12, lines 24-31 of Robles does not disclose bonds of varying size and pattern, examiner refers applicant to Col. 23, lines 32-43 as a more relevant citation wherein Robles discusses embodiments of the

side panels wherein the panels are given differential extensibility by, e.g. bonding and describes bonds that “are not limited to any particular sizes or shapes.” As to applicant's argument regarding remark (c) presented on page 14 that a teaching of intermittent bonding is neither indicative or suggestive of a bonding-free region as claimed, applicant is again reminded that all that is recited in claim 1 is a bonding-free region that spaces the fixing part form the joint parts. The very definition of intermittent bonding is that the bonding material or means is applied intermittently, i.e. not continuously and thus there are necessarily regions between bonding zones or points that are bond-free. Therefore a teaching of intermittent bonding is absolutely indicative of a bonding-free region as claimed, as the presence of the bonding-free region is all that is claimed. As to applicant’s argument regarding remark (d) presented on page 14, examiner's explanation *supra* and citation of Col. 13, lines 4-13 regarding intermittent bonding and Col. 23, lines 32-43 regarding the bonds having different sizes and shapes (which can also differ the pattern) supports examiner's allegation that Robles teaches bonds of varying the size and pattern of the bonding.

As to applicant’s argument 2, this argument has also been addressed *supra* with respect to Robles' teaching of intermittent bonding and why such intermittent bonding fairly suggests the claimed fixing and joint parts.

With respect to arguments regarding claim 15: Applicants’ arguments with regard to claim 15 have been fully considered but are not persuasive as Applicants’ arguments depend entirely on Applicants’ arguments regarding the rejection of claim 1, which have been addressed *supra*.

With respect to arguments regarding claim 17: Examiner will address only the additional remarks regarding claim 17 because the remainder are based upon arguments with respect to claim 1 already addressed *supra*. Applicant argues that Robles does not teach or suggest the

step of adjusting respective positions of a first joint part and second joint part. This is not persuasive because Robles suggests this method step when he suggests varying the bond sizes and shapes to impart differential elastic characteristics to the side panels that will lead to differential stretching that provides an improved fit to the wearer. (Col. 23, lines 32-43) Adjusting the size and shape necessarily adjusts the respective positions because enlarging one of two adjacent bonds will result in a smaller spacing therebetween and greater impediment to elasticity in that region, which is also implied, i.e. suggested, in Robles' teaching of using bonding to create a desired elasticity profile in the side panels. Therefore Robles suggests adjusting the respective positions of a first joint part and a second joint part. Applicant is advised that it is not recited in claim 17 what the joint parts' respective positions are adjusted relative to, e.g. each other, the fixing part, the inner edge of the flap, the diaper body, etc.

With respect to arguments regarding claim 19: Applicant's argument regarding claim 19 is based upon arguments presented with respect to remark (d) regarding the rejection of claim 1 and is thus also not persuasive for reasons stated *supra*.

With respect to arguments regarding claim 20: Examiner will address only the additional remarks regarding claim 20 because the remainder are based upon arguments with respect to claim 1 already addressed *supra*. Applicant argues that Robles fails to teach or suggest a fixing part that extends continuously along substantially an entire length of the inner edge of the inner edge of the inner end of the respective side flap or that a length of each of the first or second joint parts is shorter than half of that of the fixing part. Applicant specifically argues that Robles does not suggest modifying the width of the joint parts. As stated with respect to arguments regarding claim 1, Robles teaches varying the size of the bonds. Size includes width. Since it has been established herein the Robles suggests intermittent bonding and thus suggests separate fixing and joint Parts, and further teaches varying those bond sizes, Robles certainly

suggests varying the length and/or width of any of the bond points, wherein at least three of those bonding points function as a fixing part, a first joint part and a second joint part. Robles' teaching that elastic profile of the side panels can be varied and customized as desired via bonding is certainly a teaching that the amount and manner of bonding (i.e. pattern, size and shape) affects the elastic behavior of the side panel, and thus the size and amount of bonds (fixing part, joint part or otherwise) is a result-effective variable whose modification can improve the fit of a diaper to the wearer. (Col. 23, lines 12-15) Thus the rationale to modify the joint parts such that their length is shorter than half of that of the fixing part via optimization of the lengths of the joint part bonds is valid.

With respect to arguments regarding claim 22: Applicant argues that Robles does not teach or suggest a second joint part of each side flap that overlaps at least one of the leg elastic elements. Robles teaches an alternate embodiment of leg cuffs 32 having one or more elastic members in Fig. 12 as cuff 56. As can be seen in Fig. 12, elasticized cuff 56 overlaps the area of side flap 30 where the suggested second joint part is located. Therefore, though Robles does not teach a second joint part, but does suggest such a second joint part, and teaches an alternate embodiment of cuff 32 having leg elastic elements wherein the cuff and elements overlap the side flap 30, Robles certainly suggests a second joint part in each flap 30 that overlaps at least one leg elastic element.

With respect to arguments regarding claim 23: Applicant argues that Robles does not teach or suggest a first joint part that is located on an imaginary extension of said at least one of the instant leg elastic elements. This is also not persuasive for reasons similar to those present by examiner with respect to claim 22. Robles teaches an alterante embodiment of cuff 32, cuff 56 in Fig. 12, in which the cuff with at least one elastic member therein overlaps the inner edge of the respective side panel 30 at the inner edges' lower part, i.e. at the suggested second joint

part. The term "imaginary extension" was and is interpreted as a lengthwise extension of the cuff such that it covers the upper part of the inner edge. In light of this, since the imaginary cuff and leg elastics would then overlap the upper part of the inner edge of the side panel 30, the imaginary cuff and leg elastic element therein would overlap the suggested first joint part and, when the diaper is in use, the joint part would overlap the leg elastic. Thus Robles suggests a first joint part of each of the side flaps that is located along an imaginary extension of the at least one leg elastic but does not overlap any of the leg elastic elements.

With respect to arguments regarding claim 24: Applicant argues that the fasteners of Robles are co-elevational in the longitudinal direction with any portion of the first or second joint part. Given the broad nature of the terms "upper part" and “lower part” in claim 24 and the fact that Robles teaches intermittent bonding which clearly suggests three bonding points that can be identified as a fixing part, first joint part and second joint part, examiner can and has interpreted the upper part and the lower part of the inner edge of flaps 30 as the regions directly above the top edge and lower edge, respectively, of the fastener 40. Thus the fastener 40 would not be co-elevational with any portion of the first or second joint parts. Further, claiming only that the fastener as a whole is not co-elevational is not sufficient because it is not recited in the claim where the elevation of the fastener is determined. Thus, the fastener could have several elevations. Thus, given the broad scope of the terms “upper part”, “lower part” and the limitation “the fastener is not co-elevational in the longitudinal direction with any portion of the first joint part and the second joint part", the claim is given its broadest reasonable interpretation, which includes an interpretation in which the upper part of the inner edge of the claimed side flap is the area directly above the top edge of the claimed fastener, and the lower part of the inner edge is the area directly below the bottom edge of the claimed fastener.

With respect to claim 25: Applicant argues that the fastener of Robles is not co-elevational in its entirety with the bonding-free region's section that separates the first and second joint parts. This is structurally equivalent to the limitation of claim 24 that recites that the fastener is not co-elevational with any of the first and second joint parts. Therefore, the prior art of Robles also renders this limitation obvious for reasons stated *supra* with respect to claim 24 regarding the broadest reasonable interpretation of the claim.

With respect to claim 26: Applicant argues that Robles does not teach or suggest that each of the instant side flaps extends continuously without being interrupted by any bonding line and cites the line "C" shown in Fig. 11 cited by examiner. Examiner refers applicant to Col. 23, lines 55-67, wherein it is clearly disclosed by Robles that the line C is a boundary line, not a bonding line, and that it is a boundary line in a single piece extensible side panel. Robles continues in the same passage, disclosing a side panel where no boundary is present. Therefore the prior art of Robles does in fact render this limitation of claim 26 unpatentable.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Melanie J Hand/

Examiner, Art Unit 3761

Conferees:

/Tatyana Zalukaeva/

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